

**Flood Control Project Maintenance  
Levee Inspections**

**Fall 2014 Levee Maintenance Deficiency Summary Report**

**Overall LMA & Unit Ratings, including USACE Erosion Survey**

**Sacramento River Basin**

<b>RD1660</b>	Overall LMA Rating	Total LMA Miles						
<b>Reclamation District No. 1660 Tisdale</b>	<b>A</b>	<b>12.04</b>						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Encroachments	0.01		0.01	0.08%	0.66			
Slope Stability	0.05		0.05	0.42%				
<i>Supplemental</i>								
USACE Erosion Survey	0.10		0.10	0.83%				
DWR UCIP Field Study					0.04			
<i>LMA Totals:</i>	0.16	0.00	0.16	1.33%	0.70	0.00	0.00	0.00
<b>Unit No. 01 Sacramento River LB</b>	Overall Unit Rating	Total Unit Miles						
<b>RD1660</b>	<b>A</b>	<b>2.94</b>						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Encroachments	0.01		0.01	0.34%	0.66			
Slope Stability	0.05		0.05	1.70%				
<i>Supplemental</i>								
USACE Erosion Survey	0.10		0.10	3.40%				
DWR UCIP Field Study					0.03			
<i>Unit Totals:</i>	0.16	0.00	0.16	5.44%	0.69	0.00	0.00	0.00
<b>Unit No. 02 Sutter Bypass RB</b>	Overall Unit Rating	Total Unit Miles						
<b>RD1660</b>	<b>A</b>	<b>9.10</b>						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Supplemental</i>								
DWR UCIP Field Study					0.01			
<i>Unit Totals:</i>	0.00	0.00	0.00	0.00%	0.01	0.00	0.00	0.00

**Flood Control Project Maintenance  
Levee Inspections**  
**LMA District Cover Sheet**  
**Fall 2014 Levee Inspection Results**

**Reclamation District No. 1660 Tisdale**

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
* Overall LMA Rating (Fall Only)			A	

\*\* Non-receipt of Summer or Winter Inspection Reports may effect overall annual rating.

\*

SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments


**Flood Control Project Maintenance  
Levee Inspections**

**Unit Cover Sheet**

**Fall 2014 Levee Inspection Results**

**Reclamation District No. 1660 Tisdale**

Waterway			Bank	Unit Miles
Unit No. 01 Sacramento River			Left	2.94
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			A	
Date of Inspection	04/17/2014 - 04/17/2014		11/25/2014 - 11/25/2014	
DWR Inspector	Bob Duffey		Bob Duffey	
Accompanied By	Andy Duffey		Andy Duffey	

**Summer & Winter Inspections**

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

*The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.*

**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start		Rating **	A	Issue No.	14
LM End		Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Operations & Maintenance Manuals				°
					°
DWR ID	DWR_RD1660_01_s _ 2013_14				
Action/Comments					
Inspector Comments: The LMA has the O&M manuals.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Emergency Supplies & Equipment				°
					°
DWR ID	DWR_RD1660_01_s _ 2013_15				
Action/Comments					
Inspector Comments: The LMA has adequate emergency supplies and equipment.					

No Photos

LM Start		Rating **	A	Issue No.	16		
LM End		Issue Type +	Ma	Location *	LS		
Category	Earthen Levee			GPS Latitude/Longitude			
				Start		End	
Item	Flood Preparedness & Training				°		°
					°		°
DWR ID	DWR_RD1660_01_s _ 2013_16						
Action/Comments							
Inspector Comments: The LMA has completed flood fight training in 2014.							

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	0.05	Rating **	M	Issue No.	12
LM End	0.05	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.062643 °	39.062643 °
				-121.837857 °	-121.837857 °
DWR ID	DWR_RD1660_01_s_2012_12				
Action/Comments					
Building					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_12\_20141013\_00006.jpg



View of the building and fence at the landside toe.

LM Start	0.14	Rating **	M	Issue No.	11
LM End	0.14	Issue Type +	En	Location *	LS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.061322 °	39.061322 °
				-121.837993 °	-121.837993 °
DWR ID	DWR_RD1660_01_f_2014_11				
Action/Comments					
Inspector Comments: FS_ID:22503					
EP_NO: N/A					
Repair Type: Non-Urgent					
Crossing Status: Found					
UCIP Comments: - needs proper abandonment.opening of landside pipe almost burried.USACE bench mark on top of headwall at landside levee toe.					
FIELD_STRUCT_DESC: Abandoned 24-inch pipe through levee, 16.4 feet below crown. Slide gate in concrete well at toe of waterward slope. (IV A-Winship). O&M Manual SAC 133, August 1955.					
FS Date: 10/10/2013					

No Photos

LM Start	0.45	Rating **	A	Issue No.	18
LM End	0.45	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.057015 °	39.057015 °
				-121.838768 °	-121.838768 °
DWR ID	DWR_RD1660_01_f_2014_18				
Action/Comments					
Control annual grass and weeds on the levee slopes and easements.					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_18\_20141126\_00010.jpg



View of the controlled vegetation on both slopes.

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	<b>N : Not Inspected/Rated</b> C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	1.12	Rating **	M	Issue No.	9
LM End	1.43	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.047610 °	39.043622 °
				-121.838802 °	-121.836445 °
DWR ID	DWR_RD1660_01_s_2012_9				
Action/Comments					
Ditch					

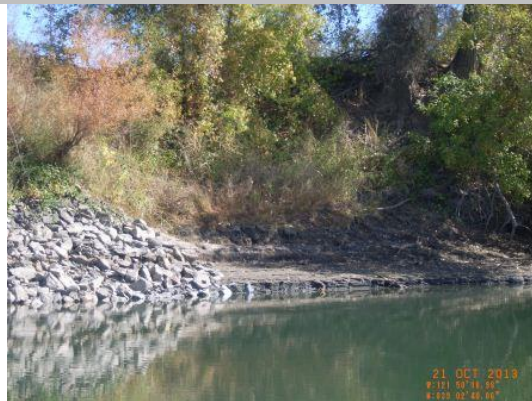
Photo 1 of 1 : FA\_2014\_RD1660\_8\_9\_20141013\_00004.jpg



View of the ag ditch along the L/S toe.

LM Start	1.27	Rating **	M	Issue No.	8
LM End	1.37	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			39.044361 °	39.043916 °
				-121.837654 °	-121.837305 °
DWR ID	DWR_RD1660_01_f_2014_8				
Action/Comments					
Inspector Comments: 2009 - Erosion on levee toe where an old cobble site is failing. 2011 - Some new minor erosion. 2012 - Site extended downstream, bank is being impacted from the weight of the trees. 2013: Minor new erosion at the toe. [2013 Site ID: SAC_120-6_L]					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_8\_20141013\_00003.jpg



USACE 2013 Photo #1

**\* Location**  
LS : Land Side    N/A : Not Applicable  
WS : Water Side  
CR : Crown

**\*\* Rating**  
A : Acceptable                      N : Not Inspected/Rated  
M : Minimally Acceptable        C : Corrected  
U : Unacceptable                  A/W : Acceptable but Monitor & Maintain

**+ Issue Type**  
Ma : Maintenance Deficiency  
Ob : Design & System Obsolescence  
En : Enforcement

**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	1.56	Rating **	M	Issue No.	13
LM End	1.56	Issue Type +	En	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.042304 °	39.042304 °
				-121.834783 °	-121.834783 °
DWR ID	DWR_RD1660_01_f_2014_13				
Action/Comments					
Inspector Comments: FS_ID:22543 EP_NO: 16476 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - 16-inch old steel pipe abandoned. Abandoned pipe found on landside levee toe.abandoned power pole on waterside. mobile diesel pump on channel bank.attached tin pipes exposed on levee surface. FIELD_STRUCT_DESC: 14-inch steel pipe through the levee crown, the placement of two 12-inch diameter tin pipes on the surface of the levee slopes attached to the existing 14-inch steel pipe. The pipe discharges into irrigation ditch on landside. An air vent on landside shoulder. (App. No. 16476 - Ettl, 1997). FS Date: 10/10/2013					

No Photos

LM Start	2.04	Rating **	M	Issue No.	1
LM End	2.38	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.037640 °	39.034416 °
				-121.828421 °	-121.825698 °
DWR ID	DWR_RD1660_01_s_2012_1				
Action/Comments					
Ditch					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_1\_20141013\_00001.jpg



View of the large ditch along the landside toe.

**\* Location**  
LS : Land Side    N/A : Not Applicable  
WS : Water Side  
CR : Crown

**\*\* Rating**  
A : Acceptable                      N : Not Inspected/Rated  
M : Minimally Acceptable        C : Corrected  
U : Unacceptable                  A/W : Acceptable but Monitor & Maintain

**+ Issue Type**  
Ma : Maintenance Deficiency  
Ob : Design & System Obsolescence  
En : Enforcement



**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	2.19	Rating **	A/W	Issue No.	19
LM End	2.19	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.035420 °	39.035420 °
				-121.828530 °	-121.828530 °
DWR ID	DWR_RD1660_01_f_2014_19				
Action/Comments					
No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_19\_20141126\_00011.jpg



View of the rodent holes and bait station.

LM Start	2.42	Rating **	M	Issue No.	2
LM End	2.42	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.034107 °	39.034107 °
				-121.825152 °	-121.825152 °
DWR ID	DWR_RD1660_01_s_2012_2				
Action/Comments					
Repair slope instability.					

No Photos

LM Start	2.44	Rating **	M	Issue No.	4
LM End	2.44	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.033858 °	39.033858 °
				-121.824985 °	-121.824985 °
DWR ID	DWR_RD1660_01_s_2012_4				
Action/Comments					
Repair slope instability.					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	2.62	Rating **	C	Issue No.	10
LM End	2.62	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.031520 °	39.031520 °
				-121.823420 °	-121.823420 °
DWR ID	DWR_RD1660_01_s_2012_10				
Action/Comments					
No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					

No Photos

LM Start	2.63	Rating **	M	Issue No.	3
LM End	2.63	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.031405 °	39.031405 °
				-121.823403 °	-121.823403 °
DWR ID	DWR_RD1660_01_s_2012_3				
Action/Comments					
Equipment					

Photo 1 of 1 : FA\_2014\_RD1660\_8\_3\_20141013\_00002.jpg



View of equipment along the landside slope.

LM Start	2.67	Rating **	M	Issue No.	17
LM End	2.67	Issue Type +	En	Location *	LS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.030935 °	39.030935 °
				-121.823022 °	-121.823022 °
DWR ID	DWR_RD1660_01_f_2014_17				
Action/Comments					
Inspector Comments: FS_ID:22632 EP_NO: 10012 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - abandoned pumphouse on landside toe. Needs confirmation from LMA or DWR Inspector about abandonment of pumphouse.headwall on channel bank. FIELD_STRUCT_DESC: 24-inch steel pipe through levee, 24 feet below crown. Slide gate on waterward shoulder. Abandoned pumphouse at landward slope. (ABO No. 10012-Harris) FS Date: 10/10/2013					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	<b>N : Not Inspected/Rated</b> C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	11/25/2014 11/25/2014	Bob Duffey

LM Start	2.68	Rating **	M	Issue No.	5
LM End	2.71	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.030891 °	39.030436 °
				-121.822956 °	-121.822617 °
DWR ID	DWR_RD1660_01_s_2012_5				
Action/Comments					
Repair slope instability.					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable                      N : Not Inspected/Rated M : Minimally Acceptable        C : Corrected U : Unacceptable                  A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Unit Cover Sheet**

**Fall 2014 Levee Inspection Results**

**Reclamation District No. 1660 Tisdale**

Waterway			Bank	Unit Miles
Unit No. 02 Sutter Bypass			Right	9.10
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			A	
Date of Inspection	04/17/2014 - 04/17/2014		11/25/2014 - 11/25/2014	
DWR Inspector	Bob Duffey		Bob Duffey	
Accompanied By	Andy Duffey		Andy Duffey	

**Summer & Winter Inspections**

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- completion of the inspection
- any changes other than the results of normal maintenance
- corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

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*The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.*

**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	11/25/2014 11/25/2014	Bob Duffey

LM Start	2.59	Rating **	A/W	Issue No.	4
LM End	2.59	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.068627 °	39.068627 °
				-121.758247 °	-121.758247 °
DWR ID	DWR_RD1660_02_f_2014_4				
Action/Comments					
No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					

Photo 1 of 1 : FA\_2014\_RD1660\_9\_4\_20141126\_00002.jpg



View of the rodent holes and bait station along the landside slope.

LM Start	5.12	Rating **	M	Issue No.	3
LM End	5.12	Issue Type +	En	Location *	LS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.102512 °	39.102512 °
				-121.774960 °	-121.774960 °
DWR ID	DWR_RD1660_02_f_2014_3				
Action/Comments					
Inspector Comments: FS_ID:22705					
EP_NO: N/A					
Repair Type: Non-Urgent					
Crossing Status: Found					
UCIP Comments: Pressure relief valve on landside levee slope. Pump platform under construction for upgrade (raising platform). Look for new upgrade/revision permit.					
FIELD_STRUCT_DESC: 18-inch steel pipe through the levee, 5.8 feet below crown. Pump in channel. Gate valve on the landward berm. Discharges into 4-foot by 4 foot concrete box on the landward berm. 2-inch electric conduit through the levee, 3.0 feet below the crown.					
Application no. 4215.					
FS Date: 10/15/2013					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance  
Levee Inspections**

**Levee Inspection Report By Mile - Fall 2014**

**Reclamation District No. 1660 Tisdale**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	11/25/2014 11/25/2014	Bob Duffey

LM Start	6.05	Rating **	A	Issue No.	5
LM End	6.05	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.111395 °	39.111395 °
				-121.787905 °	-121.787905 °
DWR ID	DWR_RD1660_02_f_2014_5				
Action/Comments					
Control annual grass and weeds on the levee slopes and easements.					

Photo 1 of 1 : FA\_2014\_RD1660\_9\_5\_20141126\_00004.jpg



View of the controlled vegetation on both slopes.

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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